

ABSTRACT

A monitoring system for an RF transmission system, such as a multi-channel television broadcasting antenna feed system, gathers data about the physical and electrical condition of the RF transmission system in real time. The system can detect and localize deterioration and other time-dependent faults in the transmission system by the tendency of faults to produce reflections back to the transmitter that were not part of the original characterization of the installation. Some kinds of faults, identified early enough, can be corrected without replacing components, and especially without shutting down the transmission system during prime viewing hours in the case of television broadcasters, or during a critical period of use of the system in the case of other user types. Other faults can be detected in time to order replacement parts before the underlying problem becomes severe, and to allow servicing during periods of low demand.